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Application No.: 10/509,431
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AMENDMENTS TO THE CLAIMS:

The following list of claims will replace all prior versions, and listings, of claims. Please amend the claims as follows:

1.-40. (canceled)

41. (new) A method for preparing a heterogenous surface on a substrate comprising:
depositing a plasma polymer on the substrate using at least one organic compound monomer as a source of plasma; and

moving at least one of:

(i) the source of plasma, and

(ii) the substrate,

relative to one another during plasma deposition such that at least part of the substrate has a plasma polymer deposit that has non-uniform characteristics selected from the group consisting of being heterogenous chemically, heterogeneous physically, and combinations thereof to define the heterogeneous surface.

42. (new) The method of claim 41 wherein the substrate is moved relative to the source of plasma.

43. (new) The method of claim 41 wherein the source of plasma is moved relative to the substrate.

44. (new) The method of claim 41 wherein the plasma polymer deposit on the heterogenous surface is heterogeneous physically.

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45. (new) The method of claim 41 wherein the source of plasma comprises at least two organic compound monomers.
46. (new) The method of claim 45 wherein the plasma polymer deposit on the heterogenous surface is heterogeneous physically.
47. (new) The method of claim 41 wherein the organic compound monomer is a volatile alcohol.
48. (new) The method of claim 41 wherein the organic compound monomer is a volatile acid.
49. (new) The method of claim 41 wherein the organic compound monomer is a volatile amine.
50. (new) The method of claim 41 wherein the organic compound monomer is a volatile hydrocarbon.
51. (new) The method of claim 41 wherein the organic compound monomer is a volatile fluorocarbon.
52. (new) The method of claim 41 wherein the organic compound monomer is tetraethyleneglycol monoallyl ether.
53. (new) The method of claim 41 wherein the organic compound monomer is a volatile siloxane.
54. (new) The method of claim 41 wherein the organic compound monomer is selected from the group consisting of allyl alcohol, acrylic acid, octa-1,7,-diene, allyl amine, perfluorohexane, tetraethyleneglycol monoallyl ether or hexamethyldisiloxane (HMDSO).

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55. (new) The method of claim 54 wherein the plasma polymer deposit was produced from a single organic compound monomer.

56. (new) The method of claim 55 wherein the organic compound monomer consists essentially of an ethylenically unsaturated organic compound.

57. (new) The method of claim 56 wherein the organic compound monomer consists of tetraethyleneglycol monoallyl ether.

58. (new) The method of claim 56 wherein the organic compound monomer is an alkene, a carboxylic acid, an alcohol or an amine.

59. (new) The method of claim 54 wherein the plasma polymer deposit consists of a mixture of two or more ethylenically unsaturated organic compounds.

60. (new) The method of claim 59 wherein the organic compound monomer is selected from the group consisting of an alkene, a carboxylic acid, an alcohol, or an amine.

61. (new) The method of claim 55 wherein the organic compound monomer consists essentially of a saturated organic compound.

62. (new) The method of claim 55 wherein the organic compound monomer consists essentially of an aromatic compound or a heterocyclic compound.

63. (new) The method of claim 41 wherein the organic compound monomer is polymerisable and has a vapour pressure of at least 6.6×10^{-2} mbar at room temperature.

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64. (new) The method of claim 44 wherein the plasma polymer deposit is a co-polymer produced from at least two organic compound monomers.

65. (new) The method of claim 64 wherein the co-polymer comprises at least one organic compound monomer that comprises at least one hydrocarbon.

66. (new) The method of claim 65 wherein at least one hydrocarbon is an alkene.

67. (new) The method of claim 41 wherein the plasma polymer deposit is deposited on said surface in spatially separated dots.

68. (new) The method of claim 41 wherein the plasma polymer deposit is deposited on said surface in tracks or lines.

69. (new) The method of claim 41 wherein the chemical composition of the plasma polymer deposit is heterogenous along its length.

70. (new) The method of claim 41 wherein chemical composition of the plasma polymer deposit is heterogenous in its height.

71. (new) The method of Claim 69 wherein the plasma polymer deposit is deposited on said surface in spatially separated dots.

73. (new) The method of Claim 70 wherein the plasma polymer deposit is deposited on said surface in spatially separated dots.

74. (new) The method of Claim 69 wherein the plasma polymer deposit is deposited on said surface in tracks or lines.

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75. (new) The method of Claim 70 wherein the plasma polymer deposit is deposited on said surface in tracks or lines.

76. (new) The method of claim 41 wherein the substrate is selected from the group consisting of glass, plastics, nitrocellulose, nylon, metal, ceramics, quartz, metal films and silicon wafer.

77. (new) The method of claim 76 wherein the substrate is a plastic selected from the group consisting of polyethylene terephthalate, polyethylene, polyvinyl chloride, polypropylene and polystyrene.